

## 1.0 INTRODUCTION

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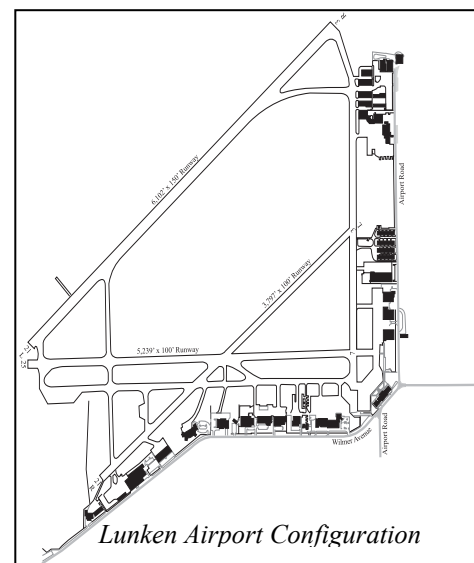
The effect of aircraft noise on people who live and work near airports is an issue of national concern. Expansion of U.S. airports to meet growing transportation demands, combined with increased residential development in many communities, has created the need to coordinate airport planning with community development planning.

Federal Aviation Regulation (FAR) Part 150, *Airport Noise Compatibility Planning*, was enacted in 1984 to require airport operators to work with their surrounding communities to address the noise impacts of aircraft operations. FAR Part 150 established a single system for determining the exposure of people to noise, as well as a standardized noise compatibility planning program. FAR Part 150 guidelines require airport operators to prepare and submit maps and documentation to the FAA illustrating the effects of existing and future noise exposure levels on the areas surrounding the airport and to develop noise compatibility programs comprised of techniques to mitigate potential noise impacts.

This chapter outlines Lunken Airport's (the Airport) current noise environment and compatibility measures. This report provides a brief description of the FAR Part 150 process as a vehicle for airport/community compatibility planning, as well as FAR Part 150 goals and requirements. This report refers to FAR Part 150 as the FAR Part 150 Study. **Appendix A** includes a Glossary of Terms.

### 1.1 AIRPORT SETTING AND FACILITIES

The Airport is located approximately four and one-half miles east of downtown Cincinnati's Central Business District, in southern Hamilton County. The Airport is a basic transport general aviation (GA) airport, serves as the primary reliever to Cincinnati/Northern Kentucky International Airport (CVG) and is used predominantly by individual owner/operators and corporate aircraft users. Lunken Airport was the original site of Cincinnati's commercial



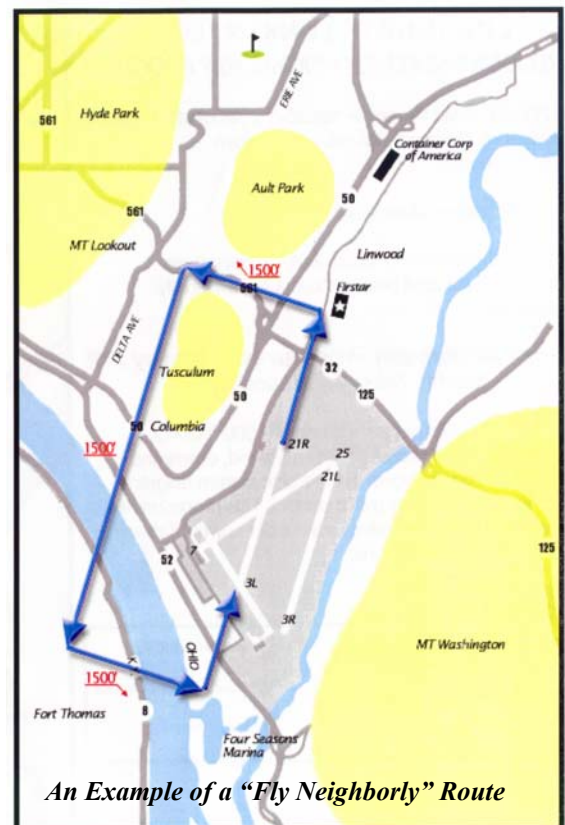
service airport. Situated on the floodplain of the Ohio River, the site is constrained by a levee that inhibits flooding of the site, by the presence of major transportation arteries and by other topographical features. Approaches to the Airport are restricted by its river valley location.

The Airport's 1,025 acres of land include three runways 2 parallel runways (designated as 3/21 L and R), parallel 3/21 runways and an intersecting crosswind runway (designated as 7/25). Runway 21L has a precision instrument landing system (ILS) and accommodates most of the Airport's jet traffic. The parallel runways have a lateral separation of 2,100 feet, allowing simultaneous independent operations during Visual Flight Rules (VFR). Refer to the Airport Configuration exhibit on the previous page for details.

The land use surrounding the Airport consists largely of long established single family residential areas. The concentration of recreational, commercial and industrial developments and open space areas also exist in some of the surrounding areas. Chapter 3.0, *Land Use and Community Characteristics*, provides an extensive inventory of existing and planned land use in the vicinity of the Airport.

## **1.2 EXISTING NOISE COMPATIBILITY PROGRAM**

The City of Cincinnati has dedicated a representative of its Department of Transportation and Engineering/Aviation Division to address community noise issues. Additionally, City Council established a Lunken Airport Oversight Advisory Board (LAOAB) for the limited purpose of providing advice and recommendations to City Council regarding operations, capital improvements, development, and growth at the Airport. The Airport's effort to minimize the environmental impact from aircraft began, following the approval of the Master Plan in 1989. The Master Plan included an Environmental Review of the Airport Development Plan's potential environmental



impacts, including aircraft noise. The Study also identified compatible and non-compatible land uses around the Airport and laid the groundwork for appropriate airport zoning. The Master Plan's recommendation for zoning were not implemented.

In 1992, the Airport implemented a set of procedures entitled: "Cincinnati Lunken Airport Recommended Procedures" for VFR Arrivals/Departures. These procedures covered: Turbine Powered Aircraft, Night Operations, and All Aircraft. These procedures depicted both arrivals and departures on a single one-sided map showing noise sensitive areas. They were updated and re-printed in 1999 for distribution to pilots, operators, and tenants of the Airport.

Additionally, in 2000, the Airport in conjunction with the Lunken Airport Advisory and User Committee and the Cincinnati FAA Flight Standards District Office (FSDO) implemented the Recommended "Fly Neighborly" Program for training aircraft using Runway 3L/21R. At the same time, the Airport updated the Cincinnati Lunken Airport Recommended Procedures to the current Recommended Noise Abatement Procedures, Turbine Powered Aircraft, Night Operations - All Aircraft (2300 – 0700 LT). The result is a document showing departures from the Airport in blue on one side and arrivals to the Airport in green on the opposite side. The previous graphic shows one example of these efforts and now called the "Fly Neighborly" Program.

The "Fly Neighborly" Program includes a progression of noise mitigation efforts to address community issues. The details by the "Fly Neighborly" Program are found in Chapter 4.0 Section 4.1 "Existing Noise Abatement Procedures".

### 1.3 THE FAR PART 150 STUDY

FAR Part 150 implements portions of Title I of the Aviation Safety and Noise Abatement Act of 1979. It establishes a system to measure airport (and background) noise, a system to determine the exposure of individuals to airport noise, and a standardized airport noise compatibility planning program. This noise compatibility planning program includes:

- Provisions for airport operators to develop and submit Noise Exposure Maps (NEM) and a Noise Compatibility Program (NCP) to the FAA
- Standard methods to measure noise and analyze noise impacts on surrounding communities
- A system that identifies land uses normally considered compatible (or noncompatible) with various levels of noise around airports
- Procedures and criteria for approval or disapproval of NCP by the FAA Administrator

FAR Part 150 is a vehicle for establishing noise control strategies and land use planning techniques. The overall goal of the program is for the Airport proprietor, in consultation with state and local planners, local aviation groups, and interested citizens, to develop a balanced and cost-effective program to mitigate the Airport's noise impact on local communities.

#### 1.3.1 Study Approach

The FAR Part 150 process is structured around the development of two key study products: Noise Exposure Maps (NEM), which depict existing and future aircraft noise levels around the airport, and a Noise Compatibility Program (NCP), which sets forth recommended measures to reduce noise and increase airport/land use compatibility. Generally, a FAR Part 150 Study is conducted through a series of the following interrelated tasks:

1. **Study Design.** The first phase of the study is to finalize a work program and establish study committees.
2. **Development of Baseline Noise Exposure Map (NEM).** Aircraft noise contours will be developed for existing (2002) and future (2007) conditions. Existing NEMs depict areas exposed to existing aircraft related noise, while

Future NEMs depict areas exposed to future aircraft-related noise. Despite the fact that the 65 DNL contour does not go far beyond the airport boundaries, there is a community perception that aircraft noise annoyance extends into the residential areas of the surrounding communities. Therefore, the Airport's FAR Part 150 Study team and the City of Cincinnati opted to analyze aircraft noise beyond the FAA recognized 65 DNL noise threshold and modeled the 55 DNL contour. A land use analysis will identify noise impacts.

3. **Analysis of Operational Alternatives.** This FAR Part 150 Study evaluates whether these existing measures should be continued, and identifies other operational measures that should be implemented.
4. **Analysis of Land Use Management Techniques.** This FAR Part 150 Study reviews effectiveness of any past efforts by surrounding communities to minimize noise impacts and identifies any additional land use management or remedial measures that should be undertaken.
5. **Development of Recommended Noise Compatibility Program (NCP).** Based on the results of the analysis of operational alternatives and land use management techniques, a future recommended Noise Compatibility Program (NCP) is developed depicting future noise levels expected to result from implementation of the recommended noise control and land use strategies developed in this study.
6. **Public Coordination.** Public involvement is important in the study. The public is kept involved in the process through study committees and workshop meetings.
7. **Documentation.** Study findings are documented and made available to the public through newsletters and the study report.
8. **Client/FAA Coordination.** The consultant team for the FAR Part 150 Study works closely with the client and the FAA throughout the study. The NEMs and the NCP will be submitted for approval by the FAA.

### **1.3.2 Study Goals and Objectives**

The FAR Part 150 process involves input from numerous agencies and individuals, so it is important that specific study goals and objectives be established. The following goals and objectives were developed during development of the study design of the FAR Part 150 program for the Airport and remain valid for the purposes of this FAR Part 150 Study:

**Goal 1: Reduce Aircraft Noise Impacts to the Communities**

**Objective 1:** Utilize airport and aircraft noise control strategies to divert noise from populated areas. This will reduce the number of people exposed to aircraft noise, low flying aircraft, or annoying single engine events.

**Objective 2:** Utilize available remedial measures to resolve conflicts in areas where noise cannot be alleviated.

**Goal 2: Develop a Realistic and Practical Noise Plan**

**Objective 1:** Explore a wide range of applicable alternatives for mitigating noise conflicts and promoting compatible land uses.

**Objective 2:** Ensure that recommended noise control actions are within acceptable economic, environmental, and social costs.

**Objective 3:** Ensure that recommended noise control actions are legally implementable with existing federal, state and local laws, regulations and ordinances, as well as, economic, environmental, and social costs.

**Objective 4:** Identify a study area for the project that is both consistent with applicable FAA standards for Noise Compatibility Studies, as well as responsive to community concerns and impacts resulting from aircraft noise.

**Goal 3: Maintain the Operational Integrity of the Airport**

**Objective 1:** Develop actions to enhance safety at the Airport and to ensure that recommended noise control actions do not jeopardize aircraft safety .

**Objective 2:** Preserve long-term capability of the Airport to meet projected levels of aviation demand.

**Goal 4: Develop a Compatible Land Use Strategy**

**Objective 1:** Limit the residential uses in areas affected by Airport operations.

**Objective 2:** Protect noise sensitive land by encouraging the development of more compatible land uses. For example, 65 Day-Night Level (DNL) compatible land uses such as commercial or industrial uses should not be recommended for undeveloped areas in existing residential land uses within 65 DNL. Rather, open space or parks are more “compatible” within the residential areas.

**Objective 3:** Promote development in areas that can accommodate growth consistent with the communities’ overall development plans and noise impacts.

**Goal 5: Develop a Balanced Noise Compatibility Program that is Responsive to Public Concerns and Acceptable to those Groups Responsible for Plan Implementation**

**Objective 1:** Ensure the responsibility for implementing the Noise Compatibility Program is shared by all participating jurisdictions.

**Objective 2:** Coordinate and promote a dialogue with Airport administration, Airport users, federal, state, county, and city planning groups, regulatory agencies, and the affected communities.

**Objective 3:** Maximize public participation in the planning process through public workshops, stakeholder interviews, focus group meetings, and meetings with the Planning Advisory Committee (PAC).

**1.3.3 Consultation and Public Involvement**

Inherent in the FAR Part 150 Study process, is participation by those affected by the airport noise environment: People who live and work in the area impacted by Airport noise. The goals of the FAR Part 150 process can only be effectively achieved when the Airport and its surrounding communities work together to develop a plan for compatibility. Participation by the local, regional, state, and federal agencies involved with Airport and community planning is also crucial to the process.

To ensure participation by these groups and to provide a platform for their input into the study analysis and recommendations, a Study Advisory Committee called the Planning Advisory Committee (PAC) has been formed by the City. The PAC is comprised of community representatives, Airport users, the FAA, the county and regional planning groups. These committee members provide technical input on issues such as operational changes to reduce noise impacts, land use strategies, and ensure that the views of area homeowners are represented in the study.

The roles of the PAC are discussed more fully in Chapter 6.0, *Coordination and Public Involvement*. Individuals who have served on the PAC for this study are identified in **Appendix B**.

**1.3.4 FAR Part 150 Study Report**

This report documents the findings and recommendations of the FAR Part 150 Study. The report includes two separate volumes:

- *Volume I - Noise Exposure Maps*
- *Volume II - Noise Compatibility Program*

Volume I presents existing (2002) and future (2007) baseline aircraft noise contours for the Airport, Volume II is the recommended Noise Compatibility Program with specific recommendations for mitigating aircraft noise levels and improving land use compatibility around the Airport.